WHAT IS CLAIMED IS:

1. A heating unit for heating an object to be heated by irradiating a light onto the object, the heating unit comprising:

a plurality of lamps including at least one first lamp and a plurality of second lamps each having an irradiation area smaller than that of said first lamp; and

a lamp house having a first lamp accommodation part at a center thereof and a second lamp accommodation part surrounding the first lamp accommodation part so that said first lamp accommodation part accommodates said first lamp and said second lamp accommodation part accommodates said second lamps.

2. The heating unit as claimed in claim 1, wherein each of said second lamps generates an irradiation energy per unit length greater than an irradiation energy per unit length of said first lamp.

3. The heating unit as claimed in claim 1, wherein a number of said second lamps per unit area is greater than a number of said first lamps per unit area.

4. The heating unit as claimed in claim 1, wherein said lamps are detachably attached to said first and second lamp accommodating parts, respectively.

5. The heating unit as claimed in claim 1, wherein each of said lamps has a reflective part that reflects a light emitted by an illuminant thereof.

6. The heating unit as claimed in claim 1, wherein each of said lamps has a threaded part on a side surface thereof, and each of said first and second lamp accommodation parts has a threaded part engageable with the treaded part of each of said lamps.

7. The heating unit as claimed in claim 1, wherein each of said first and second lamp accommodation parts has a plurality of plates attached to an inner surface thereof so that the plates are located between said inner surface and each of said lamps, thereby holding each of said lamps by elastic deformation of said plates.

8. A heat treatment apparatus for applying a heat treatment to an object to be processed, the heat treatment apparatus comprising:

a support member on which the object to be processed is placed; and

a heating unit located above said support member so as to irradiate a light onto the object to be processed placed on said support member,

wherein said heating unit comprising:

a plurality of lamps including at least one first lamp and a plurality of second lamps each having an irradiation area smaller than that of said first lamp; and

a lamp house having a first lamp accommodation part at a center thereof and a second lamp accommodation part surrounding the first lamp accommodation part so that said first lamp accommodation part accommodates said first lamp and said second lamp accommodation part accommodates said second lamps.

9. A lamp applicable to a heat source for heating an object to be processed, the lamp comprising:

an electrode part to which an electric power is supplied;

a pair of first filaments connected to said electrode part;

a second filament connected to said first filaments and having a diameter smaller than a diameter of each of said first filaments,

wherein said second filament is configured and arranged to serve as a surface illuminant with respect to the object to be processed.

10. The lamp as claimed in claim 9, wherein said surface illuminant is parallel to the object to be processed.

11. The lamp as claimed in claim 9, wherein said surface illuminant has a convex shape protruding in a direction away from the object to be processed.

12. The lamp as claimed in claim 9, wherein said surface illuminant has a polygonal shape or a circular shape when viewed from the object to be processed.

13. The lamp as claimed in claim 9, further comprising a shield part that reflects a light emitted by said second filament, the shield part being located on a side opposite to the object to be processed with respect to said second filament.

14. The lamp as claimed in claim 9, wherein said second filament includes a first part facing the object to be processed and a second part farther from the

object to be processed than said first part, and said first part has a work function lower than a work function of said second part.

15. The lamp as claimed in claim 14, wherein said first part has a cover film made of a material having a work function lower than a work function of a material of said second filament.

16. The lamp as claimed in claim 15, wherein said second filament is made of tungsten, and said cover film is made of thorium.

17. The lamp as claimed in claim 15, wherein said second filament is made of a material selected from a group consisting of platinum, connel alloy, tungsten and nickel, and said cover film is made of a material selected from a group consisting of barium oxide, strontium oxide and calcium oxide.

18. A heat treatment apparatus for applying a heat treatment to an object to be processed, the heat treatment apparatus comprising:

a support member on which the object to be processed is placed; and

a plurality of lamps located above said support member for heating the object to be processed, each of said lamps comprising:

an electrode part to which an electric power is supplied;

a pair of first filaments connected to said electrode part;

a second filament connected to said first filaments and having a diameter smaller than a diameter of each of said first filaments,

wherein said second filament is configured and arranged to serve as a surface illuminant with respect to the object to be processed.

19. A lamp adapted to be used as a heat source for heating an object to be heated, the lamp comprising:

an illuminant generating a light;

a light-emitting part having an inner surface covering the illuminant and an projection face through which the light generated by the illuminant is projected, said inner surface having a hemispherical shape or a circular cone shape; and

a reflective part provided to said inner surface of said light-emitting part so as to reflect the light generated and emitted by said illuminant.

20. The lamp as claimed in claim 19, wherein said illuminant is positioned so as to emit the light to travel in a direction perpendicular to said projection face.

21. The lamp as claimed in claim 19, further comprising an electrode part to which an electric power is supplied and connected to said light-emitting part, wherein said illuminant comprises a filament coil electrically connected to said electrode part and said filament coil is positioned parallel to said projection face.

22. The lamp as claimed in claim 19, wherein said illuminant is configured and arranged to be a surface light-source when said lamp is viewed in a direction perpendicular to said projection face.

23. The lamp as claimed in claim 19, wherein said reflective part includes a reflective film provided on said inner surface of said light-emitting part.

24. The lamp as claimed in claim 23, wherein said reflective film is made of a plated gold film.

25. A heat treatment apparatus for applying a heat treatment to an object to be processed, the heat treatment apparatus comprising:

a support member on which the object to be processed is placed; and

a plurality of lamps located above said support member for heating the object to be processed, each of said lamps comprising:

an illuminant generating a light;

a light-emitting part having an inner surface covering the illuminant and an projection face through which the light generated by the illuminant is projected, said inner surface having a hemispherical shape or a circular cone shape; and

a reflective part provided to said inner surface of said light-emitting part so as to reflect the light generated and emitted by said illuminant.

26. A lamp for heating an object to be processed, the lamp being configured and arranged to be supported and cooled by a lamp support part, the lamp comprising:

a light-emitting part emitting a light so as to heat the object to be processed; and

a reflector reflecting the light emitted by said light-emitting part toward the object to be processed,

wherein said light-emitting part and said reflector are detachably attached to the lamp support part.

27. The lamp as claimed in claim 26, wherein said reflector is configured and arranged to be attached to the lamp support part and separable from said light-emitting part.

28. The lamp as claimed in claim 26, wherein said reflector has a hemispherical shape or a circular cone shape.

29. The lamp as claimed in claim 26, wherein said reflector comprises an aluminum body and a reflective film formed on a surface facing said light-emitting part, said reflective film including a nickel layer and a gold layer or a nickel layer, a gold layer, a rhodium layer and a gold layer provided on said surface of said aluminum body sequentially in that order.

30. The lamp as claimed in claim 26, wherein said reflector is configured to reflect an infrared light and a visible light.

31. A heat treatment apparatus for applying a heat treatment to an object to be processed, the heat treatment apparatus comprising:

a support member on which the object to be processed is placed;

a lamp support part located above said support member; and

a lamp attached to said lamp support part for heating the object to be processed, the lamp comprising:

a light-emitting part emitting a light so as to heat the object to be processed; and

a reflector reflecting the light emitted by said light-emitting part toward the object to be processed,

wherein said light-emitting part and said reflector are detachably attached to said lamp support part.

32. The heat treatment apparatus as claimed in claim 31, wherein said reflector is configured and arranged to be attached to the lamp support part and separable from said light-emitting part.

33. The heat treatment apparatus as claimed in claim 31, wherein said reflector has a hemispherical shape or a circular cone shape.

34. The heat treatment apparatus as claimed in claim 31, further comprising an electrode part to which an electric power is supplied and connected to said light-emitting part, wherein said lamp support part comprises:

a first cooling part for cooling said reflector and said light-emitting part; and

a second cooling part for cooling said electrode part.

35. The heat treatment apparatus as claimed in claim 31, further comprising an electrode part to which an electric power is supplied and connected to said light-emitting part, wherein the electric power supplied to said electrode part differs depending on positions corresponding to the object to be processed.

36. The heat treatment apparatus as claimed in claim 31, wherein said light-emitting part has reflecting means for reflecting the light toward the object to be processed.

37. The heat treatment apparatus as claimed in claim 36, wherein said reflector and said reflecting means together form a hemispheric shape of a circular cone shape.